

ON THE SKELETON OF THE SNOUT AND OS CAR-
UNCULÆ OF THE MAMMARY FÆTUS OF
MONOTREMES.

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For the research three specimens were utilised. One was the fetal *Ornithorhynchus*, whose external characters were described by the writer in a previous paper before the Society. Another was a more advanced specimen of *Ornithorhynchus*, whilst the third was an *Echidna* of about the same stage as the earlier of Professor W. N. Parker's specimens. All the stages were more advanced than those of *Echidna* lately investigated by Seydel. Wax-plate reconstructions of the anterior snout region were exhibited together with serial photographs of the younger *Ornithorhynchus*.

The following features are revealed and illustrated by the models :—(1) The complete continuity of the nasal floor cartilage and the extensive marginal cartilage of the upper lip, which in the adult are separated by the premaxillæ. (2) As a result of this continuity the premaxillæ arise each as two entirely distinct bony splints on the dorsal and ventral surfaces of the cartilaginous plate aforesaid. (3) The great forward expansion of the so-called rostral cartilage of the *Ornithorhynchus* is seen to be due to the forward growth of two bilateral alar expansions of the same cartilage, which tend to meet in front, after enclosing a deep notch corresponding to the hiatus described by Broom in the rostral cartilage of the adult. (4) The ventral lamellæ of the premaxillæ are provided with true palatine processes directed backwards paramesially. In the older of the two stages of *Ornithorhynchus* there exists, quite independently of the palatine process, and separated from it by a considerable interval, a separate ossification for the dumb-bell-shaped bone, which is thus

proved to be a perfectly distinct element—a true anterior vomer. (5) Anteriorly, the ventral premaxillary splints turn up dorsally in front of the anterior extremity of the snout in both *Ornithorhynchus* specimens, in the form of rather attenuated trabeculae, lodged in the notch between the alar expansions of the rostral cartilage. Above this plane they fuse and are continued dorsally into a remarkable osseous mass which forms a definite skeletal foundation for the caruncle, and may therefore be named the os carunculæ. This is at its maximum development in the younger stage of *Ornithorhynchus*, and is undergoing resorption in the older; whilst in the *Echidna* model it is only represented by a small nodule of bone which has lost all connection with the premaxillæ. From Seydel's figures of earlier stages it is evident that the *Echidna* condition is originally identical with that of *Ornithorhynchus*, though it would appear to exist in a less exaggerated form. (6) The cartilaginous septum of both Monotremes exhibits an oval "internasal fenestra" immediately behind its anterior termination at the prerostal notch. A similar fenestra, according to W. K. Parker, is "a common feature in low Eutheria."

CATALOGUE OF THE DESCRIBED MOSSES OF NEW SOUTH WALES.

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To be issued separately with one of the later Parts of this Volume.